What is claimed is:

1. A method for detecting a biological entity in a sample, comprising randomly amplifying nucleic acids in the sample to produce labeled nucleic acids; hybridizing the labeled nucleic acids to an array of predetermined nucleic acids; and detecting the labeled nucleic acids that have hybridized to the array.

2. The method of claim 1, wherein the amplification step comprises a polymerase chain reaction.

3. The method of claim 1, wherein the amplification step utilizes random primers four to nine nucleotides in length.

4. The method of claim 1, wherein the array of predetermined nucleic acids are immobilized on a surface.

5. The method of claim 1, wherein the labeled nucleic acids are enzymatically detected.

6. The method of claim 1, wherein the labeled nucleic acids are biotinylated.

7. The method of claim 1, wherein the labeled nucleic acids are fluorescently labeled.

8. The method of claim 1, wherein the labeled nucleic acids are labeled with digoxigenin.

9. The method of claim 1, wherein the labeled nucleic acids are labeled with radiolabel.

10. The method of claim 4, wherein the surface is an opaque membrane.

11. The method of claim 4, wherein the surface is silica-based.

12. The method of claim 1, wherein the predetermined nucleic acid sequences are at predetermined positions on the array. S

13. The method of claim 1, wherein the sample comprises multiple biological entities.

14. The method of claim 1, wherein the biological entity is a pathogen.

15. The method of claim 1, wherein the predetermined nucleic acids are more than 30 nucleotides in length.